THE SCIENCE BEHIND THE SOAK
YOUR HYDROTHERAPY PRESCRIPTION FOR HEALING.

Have you ever wondered why you feel so refreshed after immersing yourself in a warm bath or hot tub? As you begin the descent, you hear yourself slowly murmur “ahhh,” but not the same “ahhh” you call out when you are pumping iron or slamming the ball on a racketball court. Here we are referring to complete relaxation and pleasure. Stated simply, soaking in warm water feels good to our bodies, minds and souls.

Before birth, we were immersed in the warmth of our mother’s body, floating in a cocoon of water. It is a natural, soothing place for humans to be. That is why immersion in a warm bath or hot tub makes us feel so comfortable and relaxed – it combines the warmth and wetness that the human body naturally yearns for – and provides physiological and psychological benefits that are voluminous and varied in scope.

For centuries, the health benefits of hydrotherapy have been known and appreciated. In fact, early civilizations built beautiful bathhouses because they were aware of the belief that warm water soaking promoted more than relaxation – it cured a number of ills. Today, medical professionals around the world use hydrotherapy to ease anxiety, improve sleep, relieve pain from arthritis and fibromyalgia, increase healing from injury and surgery and rejuvenate sore muscles and joints.

Research regarding hot water immersion is still in its relative infancy. Still, there are selected scientists who are focusing on the science behind the “ahhhs” of warm water immersion, and their findings are encouraging.

(BUST STRESS)

There is recent science to support the “ahhh” feeling that takes away the stress of the day. According to the book Hot Water & Healthy Living by J. B. Smith, Ed.D., of the Indiana University of Pennsylvania, the parasympathetic branch of our body’s system increases hormones that cause the body to relax after stress has passed. There is evidence that shows that warm water immersion seems to reduce the hormones that have been associated with stress.

Taking time to relax in warm water may also separate us from the sources of stress that can lead to a decrease in anxiety, according to Jack Raglin, Ph.D., of Indiana University. And, in his latest research reported in the fifth World Aquatic Health Conference (WAHO) in October 2008, Bruce Becker, M.D., of Washington State University, states, “We found that, with 25 minutes of soaking in a 102-degree hot tub, the autonomic nervous system alters during warm water immersion, producing changes that are parallel to those seen during relaxation and accompanying a

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reduction in anxiety.” Becker suggests that with the relaxation, warm water immersion may well have a positive effect on working memory and performance of cognitive tasks, including problem solving.

NO LONGER SLEEPLESS IN SEATTLE
After a hard workout or workday, finding restful sleep sometimes can be a challenge. Relaxing in a hot tub can help ease your body into deeper sleep. According to the National Sleep Foundation, approximately 132 million Americans suffer from sleep disorders more than one night a week, and this number is on the rise. Studies suggest that immersion in warm water (such as in a hot tub that has a constant temperature) before bedtime can ease the transition into a deeper, more restful sleep. This may be due to a temperature shift, since the body’s core internal thermostat drops after leaving the water, which signals the body that it’s time to sleep. One study by E. J. Sung and Y. Tochihara in 2000 (referenced in Hot Water & Healthy Living) looked at the positive benefits of soaking in warm water in the evening during the wintertime to fall asleep more easily. The sleep improvement may also be related to hot water’s relaxing properties. The buoyancy of water reduces bodyweight by approximately 90 percent – relieving pressure on joints and muscles, creating the sensation of weightlessness.

HEALING WITH HYDROTHERAPY
Improved circulation promotes healing. Soaking in warm water increases circulation. Thus, the blood supply to muscles increases and more blood flow means there are more nutrients available to help cells and tissues regenerate and speed up healing. The immersion effects on healing are aided by the buoyancy of water, which reduces weight bearing on joints due to gravity. For this reason, we feel lighter in water. The water is thicker than air and provides resistance to movement. When we exercise or move in water, we are moving against the water, also called graded resistance. This is helpful in promoting healing.

The jet action found in a hot tub seems to also promote healing by providing a gentle massage action to the affected area. According to the textbook Comprehensive Aquatic Therapy by Drs. Bruce Becker and Andrew Cole, “Immersion in warm water can lead to a faster and longer-lasting recovery. An environment which is less prone to cause pain, and is even pleasurable, makes immersion in warm water a unique healing environment.” This is why soaking in a hot tub with hydrotherapy jets can help restore tired, aching muscles after a regular workout, arthritis pain and more.

Approximately 43 million people in the United States suffer from some form of arthritis pain. The good news for those affected with arthritis is that there are safe and effective ways to both minimize the discomfort and prevent further damage. According to a publication from The Arthritis Foundation, Spas, Pools and Arthritis, “Regular sessions in your hot tub help keep joints moving fluidly. Exercise can also improve a person’s coordination, endurance, and the ability to perform daily tasks, and can lead to an enhanced sense of self-esteem and accomplishment.”

HEALTHY HEARTS
Research led by Dr. Thomas G. Allison of the Mayo Clinic indicates that hot tubs/spas may not present as much of a risk to heart patients as previously thought. Their report states that relaxing in a hot tub might actually be less stressful to your heart than working out on an exercise bicycle. Soaking in a hot tub increases the heart rate while lowering blood pressure, instead of raising it as other forms of exercise do.

There is fresh research reported at the 2008 WAHC from Drs. Becker and Hildenbrand from the National Aquatics and Sports Medicine Institute of Washington State University. Their 2007
and 2008 research studied the effects of immersion temperatures upon the autonomic nervous system, circulatory system and cardiovascular systems of younger and older adults. Becker reported, “The effects of aquatic immersion are profound and impact virtually every body system. Warm water immersion, from bathing to hot tub use, protects the heart from rhythm disturbances and improves the efficiency of the heart muscle. Our research has shown a positive effect upon the regulatory mechanisms that control heart rate, blood pressure and circulation in both young and older subjects. The results of this recent research add improved understanding of the physiology behind previous research demonstrating improved heart function in individuals with mild to moderate heart failure and damage from ischemic heart disease. There may indeed be magic in the water.”

MOVING FORWARD

Hydrotherapy, like regular exercise, can be the source of many health benefits, including the natural relief of arthritis, stiff joints and poor circulation, muscle relief after a hard workout, stress relief and improved sleep. The penetrating action of the hydrotherapy jets, coupled with the warm water, can provide a relaxing massage to all your muscle groups and joints, a restful night's sleep and a reinvigorated spirit. Of course, as with any health regimen, you should consult with your doctor to determine if hydrotherapy is right for you.

Editor’s Note: For 30 years, Laurie Batter has assisted organizations, manufacturers and retailers in the swimming pool, hot tub and backyard industries. She provides marketing, public relations, advertising and promotional consulting services through her marketing firm, BatterUp! Productions. The agency serves clients of all sizes around the globe, including non-profit National Swimming Pool Foundation, publisher of Hot Water & Healthy Living. Laurie can be reached by sending e-mail messages to batterup@batterupproductions.com.